

16. Fulfillment server 16 processes component promises 44, generates a single unified promise 46, and sends promise 46 to client 12 for review and confirmation.

Generate Quotation Confirmation [Client]

5        When quotation 36 is received, client 12 or an associated user reviews and may selectively accept or reject one or more individual quotation line-items or quotation 36 as a whole. Depending on the capabilities of ATP servers 14 and the business constraints relative to ATP request 30, one or more valid options may be made available for any given request line-item. Client 12 or an associated user may  
10 then select from multiple options before accepting quotation 36 in whole or in part. Once this process has been completed, client 12 sends quotation confirmation 40, including all the acceptances and rejections, to fulfillment server 16 for processing. Because quotation confirmation 40 may accept only a subset of quotation 36, it is quotation confirmation 40 rather than quotation 36 that will form the basis of the  
15 resulting promise 46. If client 12 considers quotation 36 unacceptable, client 12 may queue ATP request 30 for later re-submission. Default constraints specify the period and frequency of request re-submission (re-quote), according to particular needs.

In one embodiment, quotation confirmation 40 is an object having the following attributes or otherwise supporting the following information, in any  
20 combination and without limitation: (1) *quotation ID*; (2) *quotation line-item ID*; and (3) *quotation line-item status* - indicates whether quotation line-item was accepted, rejected, canceled, or queued, used at fulfillment server 16 to generate component quotation confirmations 42 for submission to LFMs 22 and/or ATP servers 14.

25        Process Quotation Confirmation [Fulfillment Server]

Quotation 36 may be a non-binding statement of product availability. Once client 12 accepts quotation 36 in whole or in part, fulfillment server 16 commits the resulting quotation confirmation 40 across the distributed network of LFMs 22 in the form of component quotation confirmations 42, consuming allocated supply at each  
30 appropriate ATP server location. In one embodiment, ATP request 30 is a distributed and persistent object that is monitored and maintained at each of the respective commitment locations (LFMs 22). Accordingly, until ATP request 30 is either

fulfilled or canceled, component ATP requests 32 remain a part of a distributed order backlog that fulfillment server 16 intelligently manages.

In one embodiment, fulfillment server 16 is capable of processing a variety of responses from client 12 or an associated user, including full or partial acceptance, rejection, re-quotation, changes, cancellations, inquiries, and any other appropriate user responses. If a quotation line-item is accepted, it must be confirmed at LFMs 22 since LFMs 22 will in general not have made supply reservations based on the corresponding component quotation 34. As a result of the lack of reserved supply, however, the line-item may fail such that fulfillment server 16 needs to notify LFMs 22 so that they may take some action if appropriate. In one embodiment, fulfillment server 16 may request LFMs 22 to provide component promises 44 along with component quotations 34, but with a relatively short *accept\_by* date. Fulfillment server 16 may then accept component promises 44 when it receives quotation confirmation 40 from client 12. Fulfillment server 16 is tasked with properly combining *accept\_by* dates from LFMs 22 associated with a particular ATP request 30. The resulting *accept\_by* date should generally allow fulfillment server 16 time to compute the quotation 36 (or promise 46) and, preferably, may include some padding. Since most of the responses from LFMs 22 may not reflect the dates products will actually be delivered to the customer, but may instead be statements of supplier shipment schedules, fulfillment server 16 may provide the ability to derive customer delivery dates for the multi-item order, possibly as an optional post-processing step to the promise action.

As discussed above, quotation confirmation 40 may be an object specifying the status of each quotation line-item as accepted, rejected, canceled, or queued. Fulfillment server 16 indicates the status on the corresponding component quotations 34, filters the acceptances from rejections on a line-item basis, and generates component quotation confirmations 42 for submission to LFMs 22. Fulfillment server 16 updates the status of the originating component ATP request 32 to "pending promise." In one embodiment, component quotation confirmation 42 is an object that has the following attributes or otherwise supports the following information, in any suitable combination and without limitation: (1) *component quotation ID*; (2)

*LFM/ATP server ID*; and (3) *component quotation status* - indicates whether component quotation accepted, rejected, or canceled.

Process Component Quotation Confirmations [LFM]

5 LFM 22 receives component quotation confirmation 42 and generates a promise request to ATP server 14 using command syntax appropriate to the associated planning engine. This transaction is similar to the original component request transaction, except that it seeks a firm commitment from ATP server 14 of product allocation or available materials or capacity. The confirmation transaction must also  
10 confirm the commitment corresponding to the desired component quotation 34, such that if the original component ATP request 32 received multiple component quotations 34, fulfillment server 16 and/or LFM 22 must confirm the specific quotation response the user specified at client 12. At this point, ATP server 14 responds with a firm promise, consuming appropriate allocated products or available  
15 materials or capacity. In some cases, it may also be appropriate to create the acceptance at this point. Fulfillment server 16 and/or LFM 22 may eliminate rejected component quotations 34 based on the rejection commands or any other information received from client 12.

LFM 22 computes a component promise 44 that includes information and  
20 rules on how fulfillment server 16 may mutate component promise 44. When the promise response is received from ATP server 14, fulfillment server 16 and/or LFM 22 evaluates the response to ensure that it is consistent with component quotation confirmation 42, since it is possible that the promise response is different from the original component quotation 34. This may occur, for example, where a planning  
25 change has in some way altered product availability or when another component quotation confirmation 42 has resulted in the product allocation being consumed in the interim. When this occurs, fulfillment server 16 and/or LFM 22 notes this condition and evaluates whether the promise response still satisfies the business constraints specified in component ATP request 32. If so, fulfillment server 16 and/or  
30 LFM 22 generates a component promise 44 according to the promise response from ATP server 14. If component promise 44 differs in any way from the original component quotation 34, this may be noted in component promise 44. If component